

Applicant: HEINRICH, Wolfgang et al.
Serial No.: To be assigned
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Amendments to the Claims:

Please amend the claims as follows and cancel the claims marked cancelled without prejudice.

1.-10. (Cancelled)

11. (New) A microwave antenna for flip-chip semiconductor modules, comprising:
two semiconductor substrates, which are metallized on a surface thereof, wherein
a closed group of bumps are arranged between the semiconductor substrates in such a way
that the distance between the bumps in the closed group of bumps is less than half of the
wavelength of a microwave signal which is to be radiated or received;
an open radiation slot in at least one pair of side walls of the semiconductor
substrates; and
a bump, connected to a circuit of a semiconductor module, arranged between the
closed group of bumps and the radiation slot, enabling the microwave antenna to be excited.

12. (New) The microwave antenna of Claim 11, wherein the closed group of bumps and the
radiation slot are positioned in a triangular shape.

13. (New) The microwave antenna of Claim 11, wherein the length of the radiation slot is
approximately half of the wavelength of the microwave signal.

14. (New) The microwave antenna of Claim 11, wherein the height of the closed group of
bumps is considerably less than half of the wavelength of the microwave signal.

15. (New) The microwave antenna of Claim 11, wherein the height of the semiconductor
module is higher by one tenth of the of the microwave signal.

16. (New) The microwave antenna of Claim 11, wherein the side walls of the semiconductor
substrates in the area of the radiation slot are at least in part provided with metallization.

17. (New) The microwave antenna of Claim 11, wherein the bump, which is connected to the
circuit of the semiconductor module, is positioned in such a manner that the microwave

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antenna will have impedance matched to the resonance frequency of the microwave antenna.

18. (New) The microwave antenna of Claim 11, wherein at least on one of the semiconductor substrates a monolithically integrated circuit is arranged in the area of the antenna range opened up by the bumps and the radiation slot.
19. (New) The microwave antenna of Claim 11, wherein bumps in the closed group of bumps set between the semiconductor substrates are arranged in the shape of a cross, so that a four-sector antenna is created.
20. (New) The microwave antenna of Claim 16, wherein the metallization of the side walls of the semiconductor substrates is implemented by means of via chains.